

## Chase Settle

---

**From:** Kimberly M. Wilson <kwilson@talonlpe.com>  
**Sent:** Wednesday, April 4, 2018 3:33 PM  
**To:** Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD  
**Cc:** Chase Settle; David J. Adkins  
**Subject:** Gerard AW #2 \* 30-0145-10886  
**Attachments:** Gerard AW #2 work plan.pdf

\*\* External email. Use caution. \*\*

RE: Gerard AW #2  
API # 30-015-10886

Mike and Crystal,

Please review, at your earliest convenience, the attached work plan for the above referenced facility. On behalf of EOG Resources, we are respectfully requesting your approval to proceed with these remedial actions.

If there are no objections with the scope of work described in this plan, the work will begin on or after the week of April 23, 2018.

If you have any questions or concerns please feel free to contact our office. Thank you.

Respectfully submitted,

Kimberly M. Wilson

**Kimberly M. Wilson**  
**Project Manager**

Office: 575.746.8768

Direct: 575.616.4023

Cell: 575.602.3826

Fax: 575.746.8905

Emergency: 866.742.0742

Web: [www.talonlpe.com](http://www.talonlpe.com)

**Kimberly M. Wilson**

Project Manager

Office: 575.746.8768

Direct: 575.616.4023

Cell: 575.602.3826

Fax: 575.746.8905

Emergency: 866.742.0742

Web: [www.talonlpe.com](http://www.talonlpe.com)





talonlpe.com • 866.742.0742



## **Soil Assessment and Remediation Work Plan**

Gerard AW #2  
API # 30-015-10886  
Talon Project No. 700794.202.01

### **Prepared For:**

EOG Resources  
105 S 4<sup>th</sup> Street  
Artesia, New Mexico 88210

### **Prepared By:**

TALON/LPE  
408 W. Texas Avenue  
Artesia, New Mexico 88210

**March 21 , 2018**

Mr. Mike Bratcher  
**NMOCD District 2**  
811 S. 1<sup>st</sup> Street  
Artesia, NM 88210

Subject: **Soil Assessment and Remediation Work Plan**  
Gerard AW #2  
API # 30-015-10886

Dear Mr. Bratcher,

EOG Resources has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities consist of the following.

#### **Site Information**

The Gerard AW #2 is located approximately twelve (12) miles southwest of Artesia, New Mexico. The legal location for this release is Unit Letter J, Section 25, Township 18 South and Range 25 East in Eddy County, New Mexico. More specifically the latitude and longitude for the project work area are 32.715804 North and -104.435142 West. A site plan is presented in [Appendix I](#).

According to the soil survey provided by the United States Department of Agriculture Natural Resources Conservation Service, the soil in this area is made up of Reagan loam with 0 to 3 percent slopes. The local surface and shallow geology, Quaternary Age sedimentary deposits, is comprised of alluvium and eolian sands which includes silty soils underlain by gypsum and hard. Drainage courses in this area are normally dry.

#### **Ground Water and Site Ranking**

The New Mexico State Engineer web site indicates the nearest ground water is 194' below ground surface (BGS). See [Appendix II](#) for the referenced groundwater data.

Therefore the ranking for this site is a 0 based on the following:

Depth to ground water	> 100'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Based upon the site ranking of 0, NMOCD Recommended Remedial Action Levels (RRAL) are 50 mg/kg for BTEX, 10 mg/kg for Benzene and 5,000 mg/kg for TPH. The recommended guideline for Total Chloride is 600 mg/kg.

### Incident Description

In October 2017, Talon was asked to perform site assessment and soil sampling activities to determine why there were areas that are void of vegetation. A site plan is presented in [Appendix I](#) which illustrates the referenced areas.

On October 4, 2017, Talon mobilized personnel to begin the site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected to a depth of 4-feet deep utilizing a hand auger.

On December 8, 2017, Talon personnel and equipment returned to the site to perform further vertical delineation sampling utilizing an excavator.

Talon returned to the site on February 8, 2018, with an air rotary drill rig to complete vertical delineation from sample locations S-2 and S-3. The laboratory data from the above referenced sampling events are presented in the table below.

### Laboratory Results

The complete laboratory reports are attached in [Appendix IV](#).

Talon personnel wearing clean nitrile gloves collected all soil samples. The soil samples were placed in laboratory provided sample containers, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were analyzed using Method SM4500Cl-B.

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO	TPH (mg/kg) EXT DRO
S-1	0.0	--	6640	--	--	--
	1.0	--	4720	--	--	--
	2.0	--	3920	--	--	--
	3.0	--	4560	--	--	--
	4.0	--	4640	--	--	--
	5.0	--	3600	--	--	--
	8.0	--	2800	--	--	--
	10.0	--	3280	--	--	--
	14.0	--	2400	--	--	--
	18.0	--	1600	--	--	--
	22.0	--	576	--	--	--

--Analyte Not Tested



Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO	TPH (mg/kg) EXT DRO
S-2	0.0	--	5600	--	--	--
	1.0	--	3440	--	--	--
	2.0	--	3680	--	--	--
	3.0	--	2800	--	--	--
	4.0	--	2240	--	--	--
	5.0	--	3280	--	--	--
	8.0	--	2000	--	--	--
	10.0	--	2320	--	--	--
	14.0	--	1600	--	--	--
	20.0	--	3680	--	--	--
	25.0	--	3240	--	--	--
	30.0	--	3000	--	--	--
	35.0	--	2000	--	--	--
	40.0	--	1390	--	--	--
	45.0	--	720	--	--	--
	50.0	--	480	--	--	--
	55.0	--	608	--	--	--
	60.0	--	1070	--	--	--
	65.0	--	1010	--	--	--
	70.0	--	880	--	--	--
	75.0	--	560	--	--	--
	80.0	--	320	--	--	--
	85.0	--	144	--	--	--
S-3	0.0	--	256	--	--	--
	1.0	--	1390	--	--	--
	2.0	--	3360	--	--	--
	3.0	--	5040	--	--	--
	4.0	--	5600	--	--	--
	5.0	--	4160	--	--	--
	8.0	--	6800	--	--	--
	10.0	--	7040	--	--	--
	14.0	--	3040	--	--	--
	20.0	--	1200	--	--	--
	25.0	--	3000	--	--	--
	30.0	--	432	--	--	--
	35.0	--	352	--	--	--
	40.0	--	112	--	--	--
	45.0	--	112	--	--	--
S-4	0.0	--	32	--	--	--
	1.0	--	32	--	--	--
	2.0	--	32	--	--	--
	3.0	--	16	--	--	--
	4.0	--	16	--	--	--


### Proposed Remedial Actions


- The barren areas in the vicinity of S-1, S-2 and S-3 will be excavated to a depth of 2-feet deep and a 20-mil liner will be installed. Field titration screening for chlorides will be used to determine excavation boundaries horizontally.
- Sidewall soil samples will be collected from the excavated areas to verify that all the impacted soil has been removed.
- All contaminated soil will be transported to Lea Land, LLC, a NMOCD approved disposal facility.
- The excavated area will be backfilled with locally obtained topsoil. Once the backfilling activities are complete. The work area will be contoured to match the surrounding terrain and mechanically seeded using BLM recommended seed mixture for the area.
- A final closure report documenting all remedial actions will be provided to the NMOCD Artesia Office along with a Final C-141 Form.

Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

TALON/LPE

  
Kimberly M. Wilson  
Project Manager

  
David J. Adkins  
District Manager

### Attachments:

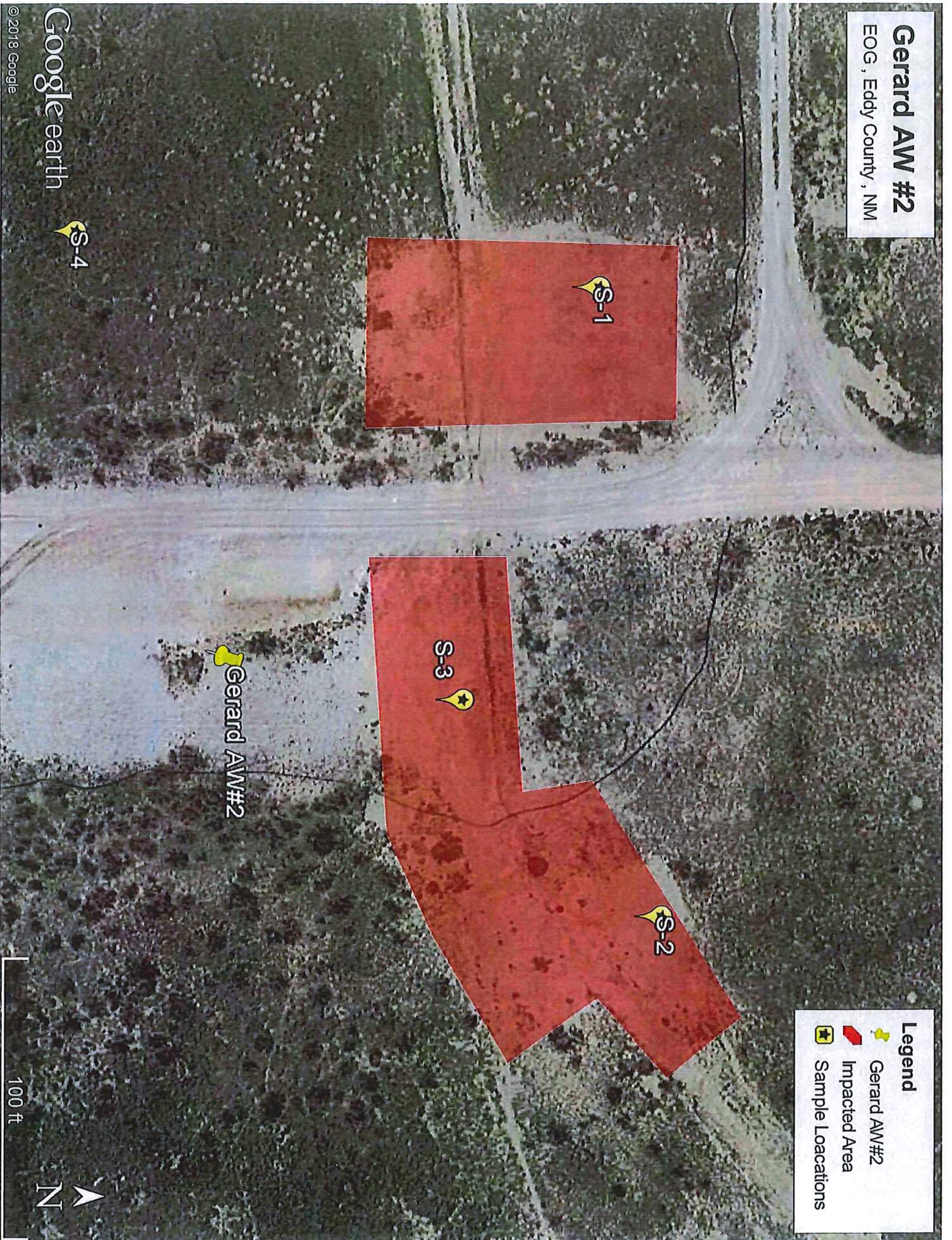
Appendix I Site Plan  
Appendix II Groundwater Data  
Appendix III Initial C-141  
Appendix III Laboratory Results

## **APPENDIX I**

### **SITE MAP**



**Gerard AW #2**  
EOG, Eddy County, NM





**APPENDIX II**  
**GROUNDWATER DATA**



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,  
O=orphaned,

C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Code	Sub-basin	County	Q 6	Q 4	Q 3	Q 2	Sec	Tws	Rng	X	Y	Distance	Depth	Well	Depth	Water Column
<a href="#">RA 12548 POD1</a>	ED			4	4	3	25	18S	25E		552484	3619618	675	255		194	61
<a href="#">RA 08999</a>	ED			4	2	1	31	18S	26E		554138	3619158*	1158	222		80	142
<a href="#">RA 04784</a>	ED						30	18S	26E		554252	3620259*	1215	205		190	15
<a href="#">RA 05344</a>	ED			2	4	4	26	18S	25E		551659	3619743	1487	455		200	255
<a href="#">RA 05620</a>	ED			3	2	4	24	18S	25E		553142	3621575*	1819	204		158	46
<a href="#">RA 03975</a>	ED			3	1	3	36	18S	25E		551942	3618353*	1848	430		270	160

Average Depth to Water: **182 feet**

Minimum Depth: **80 feet**

Maximum Depth: **270 feet**

**Record Count:6**

**UTM NAD83 Radius Search (in meters):**

**Easting (X):** 553146

**Northing (Y):** 3619756

**Radius:** 2000

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/26/18 9:53 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

## **APPENDIX III**

### **INITIAL C-141**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: EOG Resources	Contact: Chase Settle
Address: 105 S. 4 <sup>th</sup> Street	Telephone No.: 575-748-4171
Facility Name: GERARD AW #2	Facility Type: P&A

Surface Owner:	Mineral Owner: Private	API No.: 30-015-10886
----------------	------------------------	-----------------------

### LOCATION OF RELEASE

Unit Letter J	Section 25	Township 18 S	Range 25E	Feet from the 2310'	North/South Line South	Feet from the 1650'	East/West Line East	County: Eddy
------------------	---------------	------------------	--------------	------------------------	---------------------------	------------------------	------------------------	--------------

Latitude: 32.715804 Longitude: -104.435142 NAD83

### NATURE OF RELEASE

Type of Release: Produced Water, Historical	Volume of Release: Unknown	Volume Recovered: Unknown
Source of Release: Unknown	Date and Hour of Occurrence: Unknown, Historical	Date and Hour of Discovery:
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.\*  
N/A

Describe Cause of Problem and Remedial Action Taken.\*  
It was discovered there were areas that are void of vegetation.

Describe Area Affected and Cleanup Action Taken.\* EOG Resources contacted Talon/LPE to perform site assessment and sampling activities in order to generate a work plan.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:		<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Chase Settle		Approved by Environmental Specialist:	
Title: Rep Safety & Environmental II		Approval Date:	Expiration Date:
E-mail Address: Chase_Settle@eogresources.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: 2/23/2018 Phone: 575-748-4171			

\* Attach Additional Sheets If Necessary

**APPENDIX IV**  
**LABORATORY RESULTS**



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

October 25, 2017

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 10/18/17 16:38.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 10/18/2017  
Reported: 10/25/2017  
Project Name: GERARD AW #2  
Project Number: 30-015-10886  
Project Location: EDDY COUNTY

Sampling Date: 10/04/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: S1-0' (H702836-01)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6640	16.0	10/23/2017	ND	432	108	400	0.00	

**Sample ID: S1-1' (H702836-02)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4720	16.0	10/23/2017	ND	432	108	400	0.00	

**Sample ID: S1-2' (H702836-03)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3920	16.0	10/23/2017	ND	432	108	400	0.00	

**Sample ID: S1-3' (H702836-04)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4560	16.0	10/23/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 EOG Y RESOURCES, INC  
 CHASE SETTLE  
 105 SOUTH 4TH STREET  
 ARTESIA NM, 88210  
 Fax To: (575) 748-4131

 Received: 10/18/2017  
 Reported: 10/25/2017  
 Project Name: GERARD AW #2  
 Project Number: 30-015-10886  
 Project Location: EDDY COUNTY

 Sampling Date: 10/04/2017  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: S1-4' (H702836-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4640	16.0	10/23/2017	ND	432	108	400	0.00	

**Sample ID: S2-0' (H702836-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	10/23/2017	ND	432	108	400	0.00	

**Sample ID: S2-1' (H702836-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3440	16.0	10/23/2017	ND	432	108	400	0.00	

**Sample ID: S2-2' (H702836-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3680	16.0	10/23/2017	ND	432	108	400	0.00	

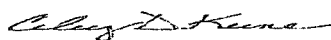
**Sample ID: S2-3' (H702836-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2800	16.0	10/23/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 10/18/2017  
Reported: 10/25/2017  
Project Name: GERARD AW #2  
Project Number: 30-015-10886  
Project Location: EDDY COUNTY

Sampling Date: 10/04/2017  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

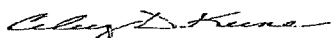
**Sample ID: S2-4' (H702836-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2240	16.0	10/23/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

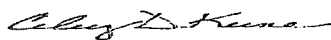
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Chase Settle

Project Name: Gerard AW #2

Company Name: EOG Resources, Inc.

Project #: 30-015-10886

Company Address: 104 South 4th Street

Project Loc: Eddy County

City/State/Zip: Artesia, NM 88210

PO #: 205-0570

Telephone No: 575-748-4171

Fax No:

Report Format

☒ Standard

☐ TRRP

☐ NPDES

Sampler Signature: Timberlake M. Wilcox

e-mail:

Chase.Settle@eogresources.com

(lab use only)

ORDER #: H7028316

Analyze For

TOLP:  
TOTAL:

ORDER #:				Preservation & # of Containers										Matrix																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
LAB # (lab use only)		FIELD CODE	Beginning Depth	Ending Depth	Date Sampled		Time Sampled		Field Filtered	Total #. of Containers	Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other (Specify)	DW=Drinking Water SL=Sludge GW=Groundwater B=Boil/Solid HP=Non-Potable Specify Other	TPH: 410.1 0015M 0015B	TPH: TX 1005 TX 1000	Cations (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	SemiVolatiles	BTEX 002 HV5030 or BTEX 0200	RCI	N.O.R.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

Special Instructions: ALL results in mg/kg. Thank you.

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Laboratory Comments:

Sample Containers Intact? ☒  
VOCs Free of Headspaces? ☒  
Labels on container(s) ☒  
Custody seals on container(s) ☒  
Custody seals on cooler(s) ☒  
Sample Hand Delivered? ☒  
By Sampler/Client Rep.? ☒  
By Courier? ☒  
UPS ☒  
DHL ☒  
FedEx ☒  
Lone Star ☒  
Temperature Upon Receipt: 22.6°C  
22.8°C

#75 Corrected +.25°C



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

December 20, 2017

DAVID ADKINS

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: GERARD AW #1

Enclosed are the results of analyses for samples received by the laboratory on 12/14/17 12:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 TALON LPE  
 DAVID ADKINS  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

 Received: 12/14/2017  
 Reported: 12/20/2017  
 Project Name: GERARD AW #1  
 Project Number: 700438.01  
 Project Location: EOG - EDDY CO NM

 Sampling Date: 12/08/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-1 5.0' (H703478-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3600	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-1 8.0' (H703478-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2800	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-1 10.0' (H703478-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	12/19/2017	ND	432	108	400	0.00	

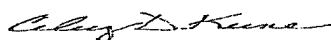
**Sample ID: S-1 14.0' (H703478-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2400	16.0	12/19/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

TALON LPE  
DAVID ADKINS  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 12/14/2017  
Reported: 12/20/2017  
Project Name: GERARD AW #1  
Project Number: 700438.01  
Project Location: EOG - EDDY CO NM

Sampling Date: 12/08/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S-1 18.0' (H703478-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-1 22.0' (H703478-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-2 5.0' (H703478-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-2 8.0' (H703478-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	12/19/2017	ND	432	108	400	0.00	

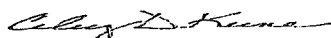
**Sample ID: S-2 10.0' (H703478-09)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2320	16.0	12/19/2017	ND	432	108	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TALON LPE  
DAVID ADKINS  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 12/14/2017  
Reported: 12/20/2017  
Project Name: GERARD AW #1  
Project Number: 700438. .01  
Project Location: EOG - EDDY CO NM

Sampling Date: 12/11/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: S-2 14.0' (H703478-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1600	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-2 20.0' (H703478-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3680	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-3 5.0' (H703478-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4160	16.0	12/19/2017	ND	432	108	400	0.00	

**Sample ID: S-3 8.0' (H703478-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6800	16.0	12/19/2017	ND	448	112	400	7.41	QM-07

**Sample ID: S-3 10.0' (H703478-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7040	16.0	12/19/2017	ND	448	112	400	7.41	

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

TALON LPE  
 DAVID ADKINS  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

Received: 12/14/2017  
 Reported: 12/20/2017  
 Project Name: GERARD AW #1  
 Project Number: 700438.01  
 Project Location: EOG - EDDY CO NM

Sampling Date: 12/08/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: S-3 16.0' (H703478-15)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3040	16.0	12/19/2017	ND	448	112	400	7.41	

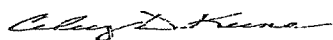
**Sample ID: S-3 20.0' (H703478-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1200	16.0	12/19/2017	ND	448	112	400	7.41	

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

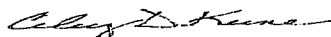
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

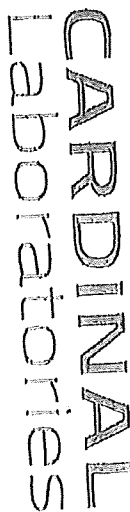
\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

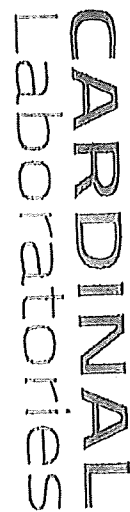
Celey D. Keene, Lab Director/Quality Manager



Page 102

104 East Maryland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

ANALYSIS REQUEST



三、

ANALYSIS REQUEST

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 2

**Company Name:** Talon/PE

**Project Manager:** Kimberly M Wilson

**Address:** 408 W. Texas Ave.

**City:** Artesia

**Phone #:** 575-746-8768

**Project #:** 700438

**Project Name:** Herard Ave #1

**Project Location:** Eddy City

**Sampler Name:** Kim Wilson

**State:** NM **Zip:** 88210

**Fax #:** 575-746-8905

**Project Owner:** EOG

**City:**

**State:**

**Phone #:**

**Fax #:**

**Lab I.D.**

#103478

11 5-2 30.0'

12 5-3 5.0'

13 5-3 8.0'

14 5-3 10.0'

15 5-3 16.0'

16 5-3 20.0'

**Sample I.D.**

(G)RAB OR (C)OMP.

# CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL.

OTHER :

DATE

TIME

**Reinforced By:**

**Reinforced By:**

**Time:**

**Date:**

**Received By:**

**Time:**

**Date:**

**Sample Condition**

**Checked By:**

**Phone Result**

**Fax Result**

**Remarks:**

**ANALYSIS REQUEST**



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

February 13, 2018

KIMBERLY WILSON

TALON LPE

408 W. TEXAS AVE.

ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 02/12/18 11:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

TALON LPE  
KIMBERLY WILSON  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/12/2018  
Reported: 02/13/2018  
Project Name: GERARD AW #2  
Project Number: 700438.202.01  
Project Location: EOG - EDDY CO NM

Sampling Date: 02/09/2018  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: S-2 25 (H800439-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3240	16.0	02/13/2018	ND	416	104	400	3.77	

**Sample ID: S-2 30 (H800439-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	02/13/2018	ND	416	104	400	3.77	

**Sample ID: S-2 35 (H800439-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	02/13/2018	ND	416	104	400	3.77	

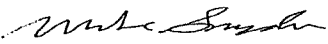
**Sample ID: S-2 40 (H800439-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1390	16.0	02/13/2018	ND	416	104	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

  
Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

TALON LPE  
KIMBERLY WILSON  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/12/2018  
Reported: 02/13/2018  
Project Name: GERARD AW #2  
Project Number: 700438.202.01  
Project Location: EOG - EDDY CO NM

Sampling Date: 02/09/2018  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: S-2 45 (H800439-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	02/13/2018	ND	416	104	400	3.77	

**Sample ID: S-2 50 (H800439-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	02/13/2018	ND	416	104	400	3.77	

**Sample ID: S-2 55 (H800439-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	02/13/2018	ND	416	104	400	3.77	

**Sample ID: S-2 60 (H800439-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1070	16.0	02/13/2018	ND	432	108	400	3.77	

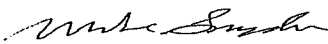
**Sample ID: S-2 65 (H800439-09)**

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	1010	16.0	02/13/2018	ND	432	108	400	3.77			

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

  
Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

TALON LPE  
KIMBERLY WILSON  
408 W. TEXAS AVE.  
ARTESIA NM, 88210  
Fax To: (575) 745-8905

Received: 02/12/2018  
Reported: 02/13/2018  
Project Name: GERARD AW #2  
Project Number: 700438.202.01  
Project Location: EOG - EDDY CO NM

Sampling Date: 02/09/2018  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Tamara Oldaker

**Sample ID: S-2 70 (H800439-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	880	16.0	02/13/2018	ND	432	108	400	3.77	

**Sample ID: S-2 75 (H800439-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	560	16.0	02/13/2018	ND	432	108	400	3.77	

**Sample ID: S-2 80 (H800439-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	02/13/2018	ND	432	108	400	3.77	

**Sample ID: S-2 85 (H800439-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	02/13/2018	ND	432	108	400	3.77	

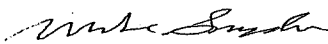
**Sample ID: S-3 25 (H800439-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3000	16.0	02/13/2018	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

  
Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 TALON LPE  
 KIMBERLY WILSON  
 408 W. TEXAS AVE.  
 ARTESIA NM, 88210  
 Fax To: (575) 745-8905

 Received: 02/12/2018  
 Reported: 02/13/2018  
 Project Name: GERARD AW #2  
 Project Number: 700438.202.01  
 Project Location: EOG - EDDY CO NM

 Sampling Date: 02/08/2018  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Tamara Oldaker

**Sample ID: S-3 30 (H800439-15)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	02/13/2018	ND	432	108	400	3.77	

**Sample ID: S-3 35 (H800439-16)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	02/13/2018	ND	432	108	400	3.77	

**Sample ID: S-3 40 (H800439-17)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/13/2018	ND	432	108	400	3.77	

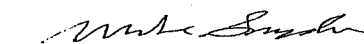
**Sample ID: S-3 45 (H800439-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	02/13/2018	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Mike Snyder For Celey D. Keene, Lab Director/Quality Manager

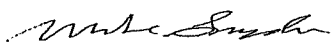
**Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

---

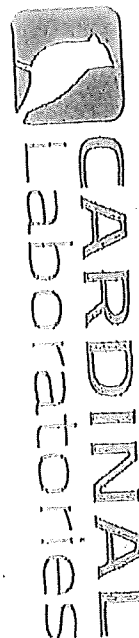
**Cardinal Laboratories****\*=Accredited Analyte**

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

**Mike Snyder** For Celey D. Keene, Lab Director/Quality Manager



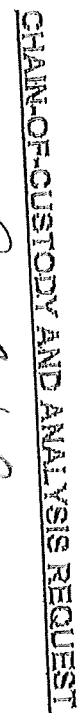
CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Merland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2475

Page 1 of 2

ANALYSIS REQUEST

Company Name: Talon/PE		P.O. #:												
Project Manager: Kimberly M. Wilson		Company: Talon/PE												
Address: 408 W. Texas Ave.		Attn:												
City: Artesia		Address:												
Phone #: 575-746-8768		City:												
Fax #: 575-746-8905		State:												
Project #: 700496, 302, P1		Zip:												
Project Name: Howard Ave #2		Phone #:												
Project Location: Add'l		Fax #:												
Sampler Name: Jim Miller		PRESERV												
FOR LAB USE ONLY		SAMPLING												
Lab I.D.	Sample I.D.	(G)RAB OR (G)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE/COOL	OTHER:	DATE	TIME
4806439	1 5-2 25	1	1	1	1	1	1	1	1	1	1	1	3/1/8	7:54
	2 5-2 30	1	1	1	1	1	1	1	1	1	1	1	8:02	8:02
	3 5-2 35	1	1	1	1	1	1	1	1	1	1	1	8:09	8:09
	4 5-2 40	1	1	1	1	1	1	1	1	1	1	1	8:21	8:21
	5 5-2 45	1	1	1	1	1	1	1	1	1	1	1	8:54	8:54
	6 5-2 50	1	1	1	1	1	1	1	1	1	1	1	9:10	9:10
	7 5-2 55	1	1	1	1	1	1	1	1	1	1	1	9:30	9:30
	8 5-2 60	1	1	1	1	1	1	1	1	1	1	1	9:36	9:36
	9 5-2 65	1	1	1	1	1	1	1	1	1	1	1	9:49	9:49
	10 5-2 70	1	1	1	1	1	1	1	1	1	1	1	10:05	10:05
REMARKS: Chlorides														
Delivered By: (Circle One) 9.3c														
Sampler: UPS - Bus - Other: Acorn 19.55														
Received By: Duane Chubb														
Date: 3/1/8														
Time: 11:40														
Sample Condition: Cool, Direct, Yes, No														
Checked By: 72.475														
Remarks: Push														



ANALYSIS REQUEST

icides

100-443887-100

Page 8 of 8

## Chase Settle

---

**From:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>  
**Sent:** Tuesday, May 15, 2018 11:02 AM  
**To:** Kimberly M. Wilson; Weaver, Crystal, EMNRD  
**Cc:** Chase Settle; David J. Adkins  
**Subject:** RE: Gerard AW #2 \* 30-0145-10886

**\*\* External email. Use caution.\*\***

RE: EOG Y \* Gerard AW 2 \* **2RP-4746** \* Historical

Kimberly,

Your proposal for remediation at the above referenced site is approved with the following:

- Liner placement must be a minimum of four feet below grade.

Thank you,

Mike Bratcher  
NMOCD District 2  
811 South First Street  
Artesia, NM 88210  
575-748-1283 Ext 108

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

---

**From:** Kimberly M. Wilson <kwilson@talonlpe.com>  
**Sent:** Wednesday, April 4, 2018 3:33 PM  
**To:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>; Weaver, Crystal, EMNRD <Crystal.Weaver@state.nm.us>  
**Cc:** Chase Settle <Chase\_Settle@eogresources.com>; David J. Adkins <dadkins@talonlpe.com>  
**Subject:** Gerard AW #2 \* 30-0145-10886

**RE: Gerard AW #2**  
**API # 30-015-10886**

Mike and Crystal,

Please review, at your earliest convenience, the attached work plan for the above referenced facility. On behalf of EOG Resources, we are respectfully requesting your approval to proceed with these remedial actions.

**If there are no objections with the scope of work described in this plan, the work will begin on or after the week of April 23, 2018.**

If you have any questions or concerns please feel free to contact our office. Thank you.

Respectfully submitted,

Kimberly M. Wilson

**Kimberly M. Wilson**

**Project Manager**

Office: 575.746.8768

Direct: 575.616.4023

Cell: 575.602.3826

Fax: 575.746.8905

Emergency: 866.742.0742

Web: [www.talonlpe.com](http://www.talonlpe.com)

**Kimberly M. Wilson**

Project Manager

Office: 575.746.8768

Direct: 575.616.4023

Cell: 575.602.3826

Fax: 575.746.8905

Emergency: 866.742.0742

Web: [www.talonlpe.com](http://www.talonlpe.com)







**EOG Resources, Inc.**  
Artesia Division Office  
104 S. 4<sup>th</sup> Street  
Artesia, N. M. 88210

March 14, 2019

NMOCD District II  
811 S. First St.  
Artesia, NM 88210

Re: Gerard AW #2  
30-015-10886  
J-25-18S-25E  
Eddy County, New Mexico  
2RP-4746

EOG Resources, Inc. is submitting the enclosed Closure Report for the above referenced site. The plan is being submitted accompanying the C-141 Final.

**EOG Resources Inc. requests closure of 2RP-4746.**

If you have any questions, feel free to call me at (575) 748-1471.

Respectfully,

Chase Settle  
Rep Safety & Environmental II  
EOG Resources, Inc.

**EOG Resources, Inc.**

**Gerard AW #2**

**Closure Report**

**J-25-18S-25E**

**Eddy County, New Mexico**

**March 14, 2019**

**2RP-4746**

---

**Table of Contents**

I.	Site Information.....	1
II.	Ground Water and Site Ranking.....	1
III.	Incident Description.....	1
IV.	Initial Remedial Actions.....	1
V.	Completed Remedial Actions.....	1-2

**Tables:**

Table 1: Confirmation Soil Analytical Data

**Figures:**

Figure 1: Original Site Map

Figure 2: Final Excavation Site Map

**Photos**

**Appendices:**

Appendix A: Soil Analytical Report

Appendix B: C-141 Initial

Appendix C: C-141 Final

---

**I. Site Information**

The Gerard AW #2 site is located approximately twelve (12) miles southwest of Artesia, New Mexico. The site is located at latitude 32.715804 and longitude -104.435142.

**II. Ground Water and Site Ranking**

The New Mexico State Engineer website indicates that ground water is 194' below ground surface (bgs) based off water well data nearest to the site.

The site assessment criteria is as follows:

Depth to ground water	> 100'
Wellhead Protection Area	> 1000'
Distance to surface water body	> 1000'

Based on the assessment criteria, the NMOCD established RRALs for this site are:

Benzene	10 mg/kg
BTEX	50 mg/kg
TPH	2,500 mg/kg
Chlorides	20,000 mg/kg

**III. Incident Description**

The site was suspected of having historical impaction during an audit in 2016. Initial soil sampling activities confirmed that an unknown release had impacted soils preventing revegetation.

**IV. Initial Remedial Actions**

On October 4, 2017, Talon LPE began the site assessment and soil sampling activities. Sampling was first conducted using a hand auger before progressing to an excavator on December 8, 2017, and finally an Air Rotary Drill Rig on February 8, 2018.

**V. Work Completed**

The impacted areas at S-1, 2, & 3 were excavated to four (4) feet below grade surface (bgs) and a geosynthetic clay liner was installed after sidewalls were excavated and soil analytical data returned assuring that sidewalls chloride concentration was below 600 mg/kg. Area S3 was dramatically increased beyond the original work plan scope due to encountering more impaction that was previously unknown until the excavation process began. With the inclusion of a geosynthetic clay liner, confirmation sampling consisted only of sidewall samples (1/22/19 & 1/31/19, results enclosed), which were taken by 5-point composite from the surface to four (4) feet bgs. Both the #1 and #2 Excavation areas had one area with discolored soil, these samples were identified and sampled independently, #1H2-OC and #2H4-OC (1/22/19, results enclosed). Note that #1H2-OC area was excavated further and all discolored soil was removed with those sidewall excavation activities. Excavation was expanded horizontally until analytical results displayed chloride concentrations less than 600 mg/kg. The excavation was then backfilled with clean, non-impacted topsoil collected from a local source.

Gerard AW #2  
Closure Report  
2RP-4746



March 14, 2019

---

All excavated material was hauled to a NMOCD approved disposal facility and the excavations were backfilled with topsoil and contoured to match the surrounding location. The site was then reseeded with native grass seed as to the private surface owners' preference. EOG Resources, Inc. is hereby submitting a C-141 Final requesting closure of 2RP-4746.

# Table 1

## Confirmation Soil Analytical Data



### Soil Analytical Data

Sample ID	Depth (ft. bgs)	Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	TPH (GRO)	TPH (DRO)	TPH EXT DRO	Total TPH	Chlorides
#1H1	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	72.7	17.6	90.3	4880
#1H1-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	256
#1H2	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	58.0	<10.0	58.0	3840
#1H2-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	416
#1H3	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	2360
#1H3-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	208
#1H4	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	2000
#1H4-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	176
#1H5	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	592
#1H6	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	160
#1H7	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	1300
#1H7-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	272
#2H1	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	2200
#2H1-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	96
#2H2	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	2880
#2H2-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	192
#2H3	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	240
#2H4	Sur-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	3040
#2H4-2	Sur-4'	1/28/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	240
#1H2-OC	2-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	9730
#2H4-OC	2-4'	1/16/19	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0	<10.0	320




# Figure 1

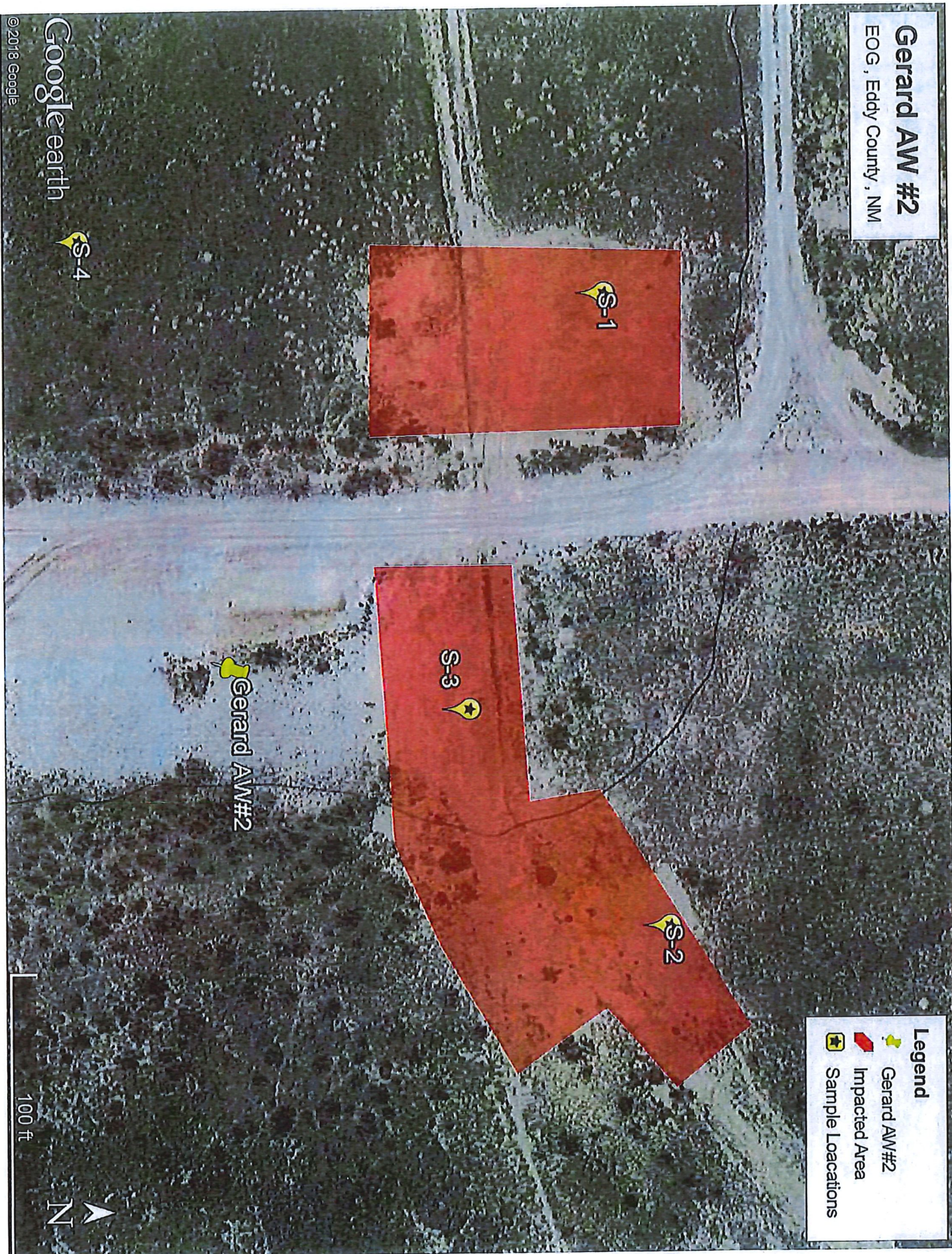
## Original Site Map



**Gerard AW #2**  
EOG, Eddy County, NM

**Legend**

-  Gerard AW#2
-  Impacted Area
-  Sample Locations





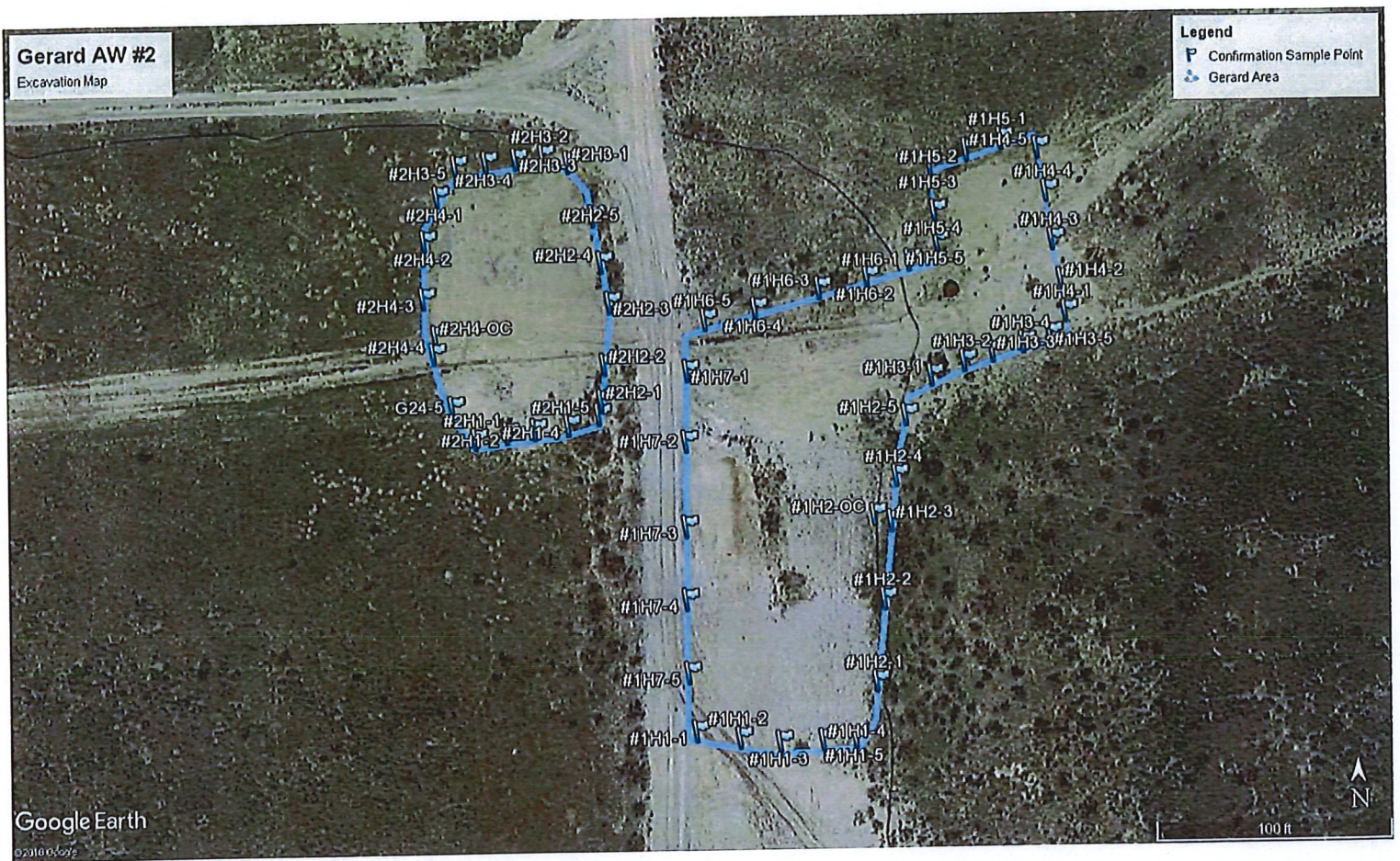
# Figure 2

## Final Excavation Site Map

**Gerard AW #2**  
Excavation Map

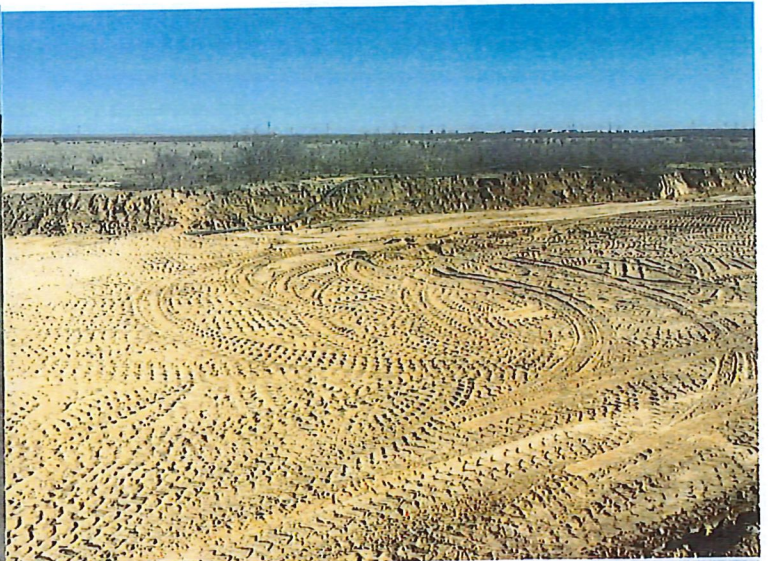
**Legend**

- Confirmation Sample Point
- Gerard Area



# Photos











# **Appendix A**

## **Soil Analytical Report**



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

January 22, 2019

CHASE SETTLE  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 01/21/19 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H1 (H900201-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 98.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4880	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	72.7	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	17.6	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 78.8 % 41-142

Surrogate: 1-Chlorooctadecane 82.0 % 37.6-147

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H2 (H900201-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 96.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3840	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	58.0	50.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<50.0	50.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 88.5 % 41-142

Surrogate: 1-Chlorooctadecane 89.8 % 37.6-147

\*=Accredited Analyte

**Cardinal Laboratories**

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H3 (H900201-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					


Surrogate: 1-Chlorooctane 76.2 % 41-142

Surrogate: 1-Chlorooctadecane 75.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H4 (H900201-04)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 93.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2000	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 64.3 % 41-142

Surrogate: 1-Chlorooctadecane 63.1 % 37.6-147

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H5 (H900201-05)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 96.2 % 37.6-147

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H6 (H900201-06)**

mg/kg			Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 93.3 % 73.3-129

mg/kg			Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	01/22/2019	ND	432	108	400	0.00	

mg/kg			Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 94.7 % 41-142

Surrogate: 1-Chlorooctadecane 94.4 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H7 (H900201-07)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 93.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1300	16.0	01/22/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

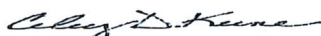
Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 96.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

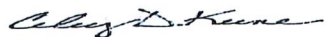
**Notes and Definitions**

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



(505) 393-2326 FAX (505) 393-2476

Project Manager: Chase Settle

**Project Name: Gerard AW #2**

**Project #:** 2RP-4746

**Project Loc:** Eddy County

PO #: 205-0570

Fax No.:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

e-mail: [Chase.Settle@eogresources.com](mailto:Chase.Settle@eogresources.com)

### Analyze For:

ORDER# 14900201

**Special Instructions:** ALL results in mg/kg. TPH Extended needed.

ALL results in mg/kg. TPH Extended needed.

Laboratory Comments:

### Sample Containers Intact?

Labels on container(s) \_\_\_\_\_

Custody seals on container(s)

Sample Hand Delivered

by Sampler/Client Rep. ? ☒ N  
by Courier? ☐ UPS ☐ DHL ☐ FedEx ☐ Lone Star

Temperature Upon Receipt: °C

#97	-C.i.dc
-----	---------



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 22, 2019

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 01/21/19 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP- 4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H2-OC (H900202-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9730	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 90.4 % 41-142

Surrogate: 1-Chlorooctadecane 94.1 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager



ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

4 jo 4 e9ed

Project Manager: Chase Settle

Project Name: **Gerard AW #2**

Company Name: EOG Resources, Inc.

Project #: 2RP-4746

Company Address: 104 South 4th Street

Project Loc: Eddy County

City/State/Zip: Artesia, NM 88210

PO #: 205-0570

Telephone No: 575-748-4171

Fax No:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature:

e-mail:

[Chase.Settle@eogresources.com](mailto:Chase.Settle@eogresources.com)

(lab use only)

ORDER #: **H900202**

Preservation & # of Containers

Matrix

Analyze For:

TCLP:

TOTAL:

LAB # (lab use only)

FIELD CODE

1 #1H2-OC

2

4'

1/16/2019

8:43 AM

Field Filtered

1

X

Ice

HNO<sub>3</sub>

HCl

H<sub>2</sub>SO<sub>4</sub>

NaOH

Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>

None

Other (Specify)

S

X

TPH: 418.1 8015M 8015B

TPH: TX 1005 TX 1006

Callons (Ca, Mg, Na, K)

X

Anions (Cl)

SAR / ESP / CEC

Metals: As Ag Ba Cd Cr Pb Hg Se

Volatiles

Semivolatiles

X

BTEX 8021B/5030 or BTEX 8260

RCl

N.O.R.M.

X

RUSH TAT (Pre-Schedule) 24, 48, 72 hrs

Standard TAT

Special Instructions:

ALL results in mg/kg. TPH Extended needed.

Relinquished by:

Date

Time

Received by:

Date

Time

Date

Time

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Date

Time

Date

Time

Received by:

Date

Time

Relinquished by:

Date

Time

Received by:

Date

Time

Date

Time

Date

Time

Received by:

Date

Time

Laboratory Comments:

Sample Containers Intact? ☒ N  
VOCs Free of Headpace? ☒ N  
Labels on container(s) ☒ N  
Custody seals on container(s) ☒ N  
Custody seals on cooler(s) ☒ N  
Sample Hand Delivered by Sampler/Client Rep.? ☒ N  
by Courier? ☒ N  
UPS ☒ N  
DHL ☒ N  
FedEx ☒ N  
Lone Star ☒ N

Temperature Upon Receipt: **-0.2°C**



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

January 22, 2019

CHASE SETTLE  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 01/21/19 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H1 (H900200-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2200	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 84.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H2 (H900200-02)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 97.2 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2880	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

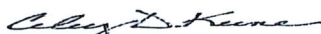
Surrogate: 1-Chlorooctane 76.2 % 41-142

Surrogate: 1-Chlorooctadecane 76.5 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H3 (H900200-03)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 93.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	01/22/2019	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 90.2 % 41-142

Surrogate: 1-Chlorooctadecane 88.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H4 (H900200-04)**

BTEX 8021B			mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474		
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420		
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20		
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31		
Total BTEX	<0.300	0.300	01/22/2019	ND						

Surrogate: 4-Bromofluorobenzene (PIC) 93.6 % 73.3-129

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	3040	16.0	01/22/2019	ND	432	108	400	3.77			

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	187	93.4	200	1.23		
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	209	104	200	0.684		
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND						

Surrogate: 1-Chlorooctane 90.9 % 41-142

Surrogate: 1-Chlorooctadecane 90.9 % 37.6-147

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager





ARDINAL LABORATORIES  
101 East Marland, Hobbs, NM 88240

(505) 393-2326 FAX (505) 393-2476

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Chase Settle

Project Name: Gerard AW #2

Company Name: EOG Resources, Inc.

Project #: 2RP-4746

Company Address: 104 South 4th Street

Project Loc: Eddy County

City/State/Zip: Artesia, NM 88210

PO #: 205-0570

Telephone No: 575-748-4171

Fax No:

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

Sampler Signature: [Signature]

e-mail:

Chase.Settle@eogresources.com

(lab use only)

ORDER #: H900200

Analyze For:

LAB # (lab use only)		FIELD CODE	Beginning Depth	Ending Depth	Date Sampled	Time Sampled	Field Filled	Total #. of Containers	Preservation & # of Containers								Matrix	Analyze For:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
									Ice	HNO <sub>3</sub>	HCl	H <sub>2</sub> SO <sub>4</sub>	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	None	Other ( Specify)		DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other	TPH: 418.1 8015M 8015B	TPH: TX 1005 TX 1008	Caltons (Ca, Mg, Na, K)	Anions (Cl)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021E/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pro-Schedule) 24, 48, 72 hrs	Standard TAT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
1	#2H1	SUR	4'	1/16/2019	8:49 AM			1	X							S	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

Special Instructions:

ALL results in mg/kg. TPH Extended needed.

Laboratory Comments:

Relinquished by: <u>[Signature]</u>	Date: <u>1/21/19</u>	Time: <u>1:52</u>	Received by: <u>[Signature]</u>	Date: <u>1/21/19</u>	Time: <u>2:00</u>
Relinquished by: <u>[Signature]</u>	Date: <u>1/21/19</u>	Time: <u>1:53</u>	Received by: <u>[Signature]</u>	Date: <u>1/21/19</u>	Time: <u>1:53</u>
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Temperature Upon Receipt: -0.22 °C

by Counter? UPS DHL FedEx Lone Star



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

January 22, 2019

CHASE SETTLE  
EOG Y RESOURCES, INC  
105 SOUTH 4TH STREET  
ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 01/21/19 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene  
Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/21/2019  
Reported: 01/22/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/16/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H4-OC (H900203-01)**

BTEX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	<0.050	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	<0.150	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	<0.300	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 98.7 % 73.3-129

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/22/2019	ND	212	106	200	0.401	
DRO >C10-C28*	<10.0	10.0	01/22/2019	ND	218	109	200	6.50	
EXT DRO >C28-C36	<10.0	10.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 88.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.4 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager

### Notes and Definitions

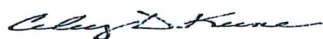
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager







PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

January 31, 2019

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 01/30/19 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H1-2 (H900326-01)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTX	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 76.0 % 41-142

Surrogate: 1-Chlorooctadecane 73.7 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

*Celestine D. Keene*

Celestine D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H2-2 (H900326-02)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTEX	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	416	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 88.7 % 41-142

Surrogate: 1-Chlorooctadecane 86.5 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H3-2 (H900326-03)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTEX	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 95.0 % 41-142

Surrogate: 1-Chlorooctadecane 92.0 % 37.6-147

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H4-2 (H900326-04)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTEX	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 87.7 % 41-142

Surrogate: 1-Chlorooctadecane 85.7 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #1H7-2 (H900326-05)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTX	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 80.8 % 41-142

Surrogate: 1-Chlorooctadecane 79.3 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager

(505) 393-2326 FAX (505) 393-2476

## CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Gerard AW #2

Project #: 2RP-4746

Project Loc: Eddy County

**PO #: 205-0570**

Fax No:

Report Format	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> TRRP	<input type="checkbox"/> NPDES
---------------	--	-------------------------------	--------------------------------

**e-mail:**

Chase Settle@eoagresources.com

Analyze For:

ORDER #: H900326

[illegible]

All results in mg/kg. TPH Extended needed

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Date \_\_\_\_\_

Time

Received by:

Date \_\_\_\_\_

Time

### VOCs Free of Headspace:



Relinquished by:

Date \_\_\_\_\_

Time

Received by:

Date \_\_\_\_\_

Time

**Sample Hand Delivered**



Relinquished by:

Date \_\_\_\_\_

Time

Received by EL0T:

Date \_\_\_\_\_

Time

by Courier: UPS DHL FedEx Lone

111

1

1

[illegible]

1000

1

23.0





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

January 31, 2019

CHASE SETTLE

EOG Y RESOURCES, INC

105 SOUTH 4TH STREET

ARTESIA, NM 88210

RE: GERARD AW #2

Enclosed are the results of analyses for samples received by the laboratory on 01/30/19 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H1-2 (H900327-01)**

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTEx	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 84.0 % 41-142

Surrogate: 1-Chlorooctadecane 83.5 % 37.6-147

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H2-2 (H900327-02)**

BTEX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTEX	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIB) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 84.4 % 41-142

Surrogate: 1-Chlorooctadecane 81.0 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

**Analytical Results For:**

EOG Y RESOURCES, INC  
CHASE SETTLE  
105 SOUTH 4TH STREET  
ARTESIA NM, 88210  
Fax To: (575) 748-4131

Received: 01/30/2019  
Reported: 01/31/2019  
Project Name: GERARD AW #2  
Project Number: 2RP-4746  
Project Location: EDDY COUNTY

Sampling Date: 01/28/2019  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: #2H4-2 (H900327-03)**

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/30/2019	ND	1.90	95.2	2.00	0.109	
Toluene*	<0.050	0.050	01/30/2019	ND	1.95	97.5	2.00	0.688	
Ethylbenzene*	<0.050	0.050	01/30/2019	ND	1.96	97.9	2.00	0.0573	
Total Xylenes*	<0.150	0.150	01/30/2019	ND	5.96	99.3	6.00	0.420	
Total BTX	<0.300	0.300	01/30/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	01/31/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane 83.2 % 41-142

Surrogate: 1-Chlorooctadecane 82.6 % 37.6-147

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

*Celestine D. Keene*

Celestine D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

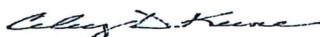
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

---

Cardinal Laboratories

\* = Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



---

Celey D. Keene, Lab Director/Quality Manager



CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: Gerard AW #2

**Project #: 2RP-4746**

Project Loc: Eddy County

PO #: 205-0570

Report Format: ☒ Standard ☐ TRRP ☐ NPDES

[Chase.Settle@geogresources.com](mailto:Chase.Settle@geogresources.com)

Analyze For:	
--------------	--

TCLP:	
TOTAL:	

[illegible]

ALL results in mg/kg. TPH Extended needed.

Laboratory Comments:

Labels on container(s) \_\_\_\_\_

Sample Hand Delivered  
by Sampler/Client Rep ?

Temperatura | Non Baciati: 1.00

Temperature Upon Receipt: 34.0

# Appendix B

## C-141 Initial



REC'D 4/18  
NMOCD Dist 2

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1813642773		OPERATOR	<input checked="" type="checkbox"/> Initial Report <input type="checkbox"/> Final Report
Name of Company: EOG Resources		Contact: Chase Settle	
Address: 105 S. 4 <sup>th</sup> Street		Telephone No.: 575-748-4171	
Facility Name: GERARD AW #2		Facility Type: P&A	
Surface Owner:		Mineral Owner: Private	API No.: 30-015-10886

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Eddy
J	25	18 S	25E	2310'	South	1650'	East	

Latitude: 32.715804 Longitude: -104.435142 NAD83

NATURE OF RELEASE

Type of Release: Produced Water, Historical	Volume of Release: Unknown	Volume Recovered: Unknown
Source of Release: Unknown	Date and Hour of Occurrence: Unknown, Historical	Date and Hour of Discovery:
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	
If a Watercourse was Impacted, Describe Fully.* N/A		
Describe Cause of Problem and Remedial Action Taken.* It was discovered there were areas that are void of vegetation.		
Describe Area Affected and Cleanup Action Taken.* EOG Resources contacted Talon/LPE to perform site assessment and sampling activities in order to generate a work plan.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		

Signature:		OIL CONSERVATION DIVISION	
Printed Name: Chase Settle		Signed By: <u>Mike Brannan</u> Approved by Environmental Specialist:	
Title: Rep Safety & Environmental II		Approval Date: 5/15/18	Expiration Date: N/A
E-mail Address: Chase_Settle@eogresources.com		Conditions of Approval:	Attached: <u>2RP-4746</u>
Date: 2/23/2018 Phone: 575-748-4171			

\* Attach Additional Sheets If Necessary

5/15/18AB

# Appendix C

## C-141 Final



Incident ID	
District RP	2RP-4746
Facility ID	
Application ID	

## Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

**Closure Report Attachment Checklist:** *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate OCD District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Chase Settle Title: Rep Safety and Environmental II  
Signature: *Chase Settle* Date: 03/14/2019  
email: Chase\_Settle@eogresources.com Telephone: 575-748-1471

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: *Bradford Billings* Date: 11/21/2019  
Printed Name: Bradford Billings Title: E.Spec.A